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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/585,151	10/16/2007	Martin Brox	1438.122.101/1F02P045W0US	8215
7590 Dicke, Billig & Czaja Fifth Street Towers, suite 2250 100 South Fifth Street Minneapolis, MN 55402			EXAMINER PHAM, EMILY P	
			ART UNIT 2838	PAPER NUMBER
			MAIL DATE 05/12/2010	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/585,151

Applicant(s)

BROX, MARTIN

Examiner

Emily Pham

Art Unit

2838

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 April 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-15, 17-26 and 28-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10-15, 17-26, & 28-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 November 2009 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. This Office Action is in response to the RCE filed on 4/19/2010.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4/19/2010 has been entered.

Drawings

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "means for generating a variable further voltage from the first voltage that tracks the first voltage and a further device for generating the further voltage from the first voltage" must be shown or the feature(s) canceled from the claim(s) 21. No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure

number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

4. Claim 15 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claim 19 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 19 recites the limitation "changing the essentially constant voltage to provide the second voltage in a first state and changing the greater of the essentially constant voltage and the variable further voltage to provide the second voltage in a second state." in lines 9-11. However, this limitation is new subject matter which is not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

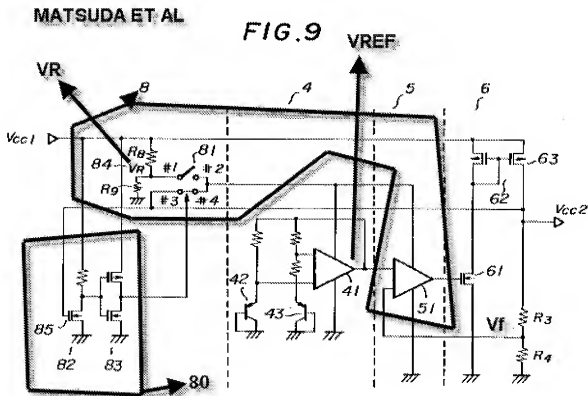
A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 10-15, 17-26, 28, and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by Matsuda et al (USP 5,861,771).

Regarding independent claim 10: Matsuda et al (**For example: see FIG 9**) discloses a voltage regulation system comprising: an input of the voltage regulating system being presented with a first voltage (**Vcc1**); an output of the voltage regulation

system having the first voltage (**Vcc1**) changed into a second voltage (**Vcc2**), which is available to be tapped at the output; a first device (**the reference voltage generating circuit 4 formed by band gap reference circuit; lines 21-32 of col. 6**) for generating an essentially constant voltage (**VREF**) from the first voltage (**Vcc1**), or a voltage derived from it (**Vcc1**); and a further device (**8**) for generating a variable further voltage (**VR**) from the first voltage (**Vcc1**) or a voltage derived from it (**Vcc1**), the variable further voltage (**VR**) tracking the first voltage (**Vcc1**); and a device (**80**) for activating and/or deactivating the further device (**8**) to an activated and/or deactivated state.



Regarding claims 11 and 22: Matsuda et al (For example: see FIG 9) discloses the further voltage (**VR**) generated by the further device (**8**) can be higher than the

voltage generated by the first device **(the reference voltage generating circuit 4 formed by band gap reference circuit; lines 21-32 of col. 6; the values of resistors in the bandgap circuit 4 and the resistors of the further device (8) provide output voltage of the bandgap circuit 4 that is lower or higher than the further voltage generated by the further device (8)).**

Regarding claims 12 and 23: Matsuda et al **(For example: see FIG 9)** discloses the further voltage **(VR)** generated by the further device **(8)** is proportional to the first voltage **(Vcc1)** or the voltage derived from it **(Vcc1)**.

Regarding claims 13 and 24: Matsuda et al **(For example: see FIG 9)** discloses the further device **(8)** comprises a voltage divider circuit **(voltage divider R8 and R9)**. Regarding claim 14: Matsuda et al **(For example: see FIG 9)** discloses the voltage **(VREF)** generated by the first device **(the reference voltage generating circuit 4 formed by band gap reference circuit; lines 21-32 of col. 6)** or a voltage derived from it, and the further voltage **(VR)** generated by the further device **(8)**, or a voltage derived from it, can be used for controlling a voltage regulation circuit device **(as reference voltage to amplifier 51 that control switch 61 to regulate output voltage of the voltage regulation circuit device)**.

Regarding claim 15: Matsuda et al **(For example: see FIG 9)** discloses the voltage **(VREF)** generated by the first device **(the reference voltage generating circuit 4 formed by band gap reference circuit; lines 21-32 of col. 6)** or a voltage derived from it, and the further voltage **(VR)** generated by the further device **(8)**, or a voltage derived from it, can be used as a reference voltage for the voltage regulation

circuit device **(as reference voltage to amplifier 51 that control switch 61 to regulate output voltage of the voltage regulation circuit device).**

Regarding claim 17: Matsuda et al **(For example: see FIG 9)** discloses in the activated state of the further device **(8)**, the height of the level of the reference voltage used for the voltage regulation circuit device is determined by whichever of the voltages generated by the first **(the reference voltage generating circuit 4 formed by band gap reference circuit; lines 21-32 of col. 6)** and further device **(8)**, or the voltages derived from them, exhibits the higher level **(whichever V_f or V_{REF} exhibits the higher level).**

Regarding claim 18: Matsuda et al **(For example: see FIG 9)** discloses in the deactivated state of the further device **(8)**, the height of the level of the reference voltage used for the voltage regulation system circuit device is determined by the voltage generated by the first device **(the reference voltage generating circuit 4 formed by band gap reference circuit; lines 21-32 of col. 6)** or the voltage derived from it **(whichever V_f or V_{REF} exhibits the higher level).**

Regarding claim 19: Matsuda et al **(For example: see FIG 9)** discloses the apparatus at its normal operation performing method of changing a first voltage **(Vcc1)** into a second voltage **(Vcc2)**, wherein the second voltage **(Vcc2)** exhibits a lower voltage level than the first voltage **(Vcc1)** **(For example: see lines 26-27 of col. 1);** generating an essentially constant voltage **(VREF)** from the first voltage **(Vcc1)**, or a voltage derived from it; generating a variable further voltage **(VR)** from the first voltage **(Vcc1)** or a voltage derived from it, the variable further voltage **(VR)** tracking the first

voltage (**Vcc1**), wherein the further voltage (**VR**) can be higher than the constant voltage (**VREF**) generated from the first voltage (**Vcc1**) or the voltage derived from it; and changing the essentially constant voltage (**VREF**) to provide the second voltage (**Vcc2**) in a first state (**connection made between contact #1 and #2**) and changing the greater of the essentially constant voltage (**VREF**) and the variable further voltage (**VR**) to provide the second voltage (**Vcc2**) in a second state (**connection made between contact #3 and #4**).

Regarding claim 20: Matsuda et al (**For example: see FIG 9**) discloses the apparatus at its normal operation performing method of generating the further voltage (**VR**) such that it is proportional to the first voltage (**Vcc1**) or the voltage derived from it.

Regarding independent claim 21: Matsuda et al (**For example: see FIG 4, FIG 7, and FIG 9**) discloses a voltage regulation system comprising: an input having a first voltage (**Vcc1**); an output having a second voltage (**Vcc2**); a first device (**the reference voltage generating circuit 4 formed by band gap reference circuit; lines 21-32 of col. 6**) for generating an essentially constant voltage (**VREF**) from the first voltage (**Vcc1**); and means (**8**) for generating a variable further voltage (**VR**) from the first voltage (**Vcc1**) that tracks the first voltage (**Vcc1**), a further device (**8**) for generating the further voltage (**VR**) from the first voltage (**Vcc1**); and a device (**80**) for activating and/or deactivating the further device (**8**) to an activated and/or deactivated state.

Regarding claim 25: Matsuda et al (**For example: see FIG 4, FIG 7, and FIG 9**) discloses the voltage (**VREF**) generated by the first device (**the reference voltage generating circuit 4 formed by band gap reference circuit; lines 21-32 of col. 6**)

and the further voltage (**VR**) generated can be used for controlling a voltage regulation circuit device.

Regarding claim 26: Matsuda et al (**For example: see FIG 4, FIG 7, and FIG 9**) discloses the voltage generated by the first device (**the reference voltage generating circuit 4 formed by band gap reference circuit; lines 21-32 of col. 6**) and the further voltage (**VR**) generated can be used as a reference voltage for the voltage regulation circuit device.

Regarding claim 28: Matsuda et al (**For example: see FIG 4, FIG 7, and FIG 9**) discloses in the activated state of the further device (**8**), the height of the level of the reference voltage (**Voltage between switch 61, switch 62, and ground**) used for the voltage regulation circuit device is determined by whichever of the voltages generated by the first (**the reference voltage generating circuit 4 formed by band gap reference circuit; lines 21-32 of col. 6**) and further (**output circuit 6**) device exhibits the higher level (**51 decides higher level to activate switch 61**).

Regarding claim 29: Matsuda et al (**For example: see FIG 4, FIG 7, and FIG 9**) discloses in the deactivated state of the further device (**8**), the height of the level of the reference voltage (**Voltage between switch 61, switch 62, and ground**) used for the voltage regulation system circuit device is determined by the voltage generated by the first device (**the reference voltage generating circuit 4 formed by band gap reference circuit; lines 21-32 of col. 6**) or the voltage derived from it.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 30 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuda et al (USP 5,861,771) in view of Ingino (USP 6,914,476).

Regarding claims 30 and 31: Matsuda et al fails to disclose the device for activating and/or deactivating the further device comprises a register.

However, Ingino (**For example: see lines 46-52 of col. 6**) teaches the device (**programmable components**) for activating and/or deactivating the further device (**switch**) comprises a register (**register 32**). It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the regulator circuit of Matsuda et al to include a register by Ingino for the purpose of controlling the further device by programmed input and programmed clock signal.

Additionally, since Matsuda et al and Ingino are both from the same field of endeavor (**regulator**), the purpose disclosed by Ingino would have been recognized in the pertinent art of Matsuda et al.

Response to Arguments

11. Applicant's arguments filed 4/19/2010 have been fully considered but they are not persuasive.

First, applicant argued that Matsuda fails to teach or suggest the limitations recited by amended independent claims 10 and 21 including “a device for activating and/or deactivating the further device to an activated and/or deactivated state”. According to applicant, resistors R3 and R4 of Matsuda do not activate and/or deactivate output circuit 6 or input transistor 61. Resistors R3 and R4 of Matsuda are merely used to provide a feedback signal to maintain Vcc2 at a fixed level. The feedback signal Vf does not activate and/or deactivate any circuit, let alone voltage step-down circuit 7 and operational amplifier 51.

It is noted that Matsuda (**For example: see FIG 9**) discloses a device (80) for activating and/or deactivating the further device (8) to an activated and/or deactivated state. Device (8) has switch (81) with terminals #1 to #4 providing activated/deactivated state when they are closed or open. Output from device (80) controls switching state of switch (81) whether switch stayed closed or open. Applicant does not claim or disclose that the further device (including R3 and R4) activates and/or deactivates output circuit or input transistor. It is shown in **FIG 9** that the device (80) by providing control signal to terminals #1 to #4 of switch (81) controls the state of the further device (8). Applicant does not claim or disclose feedback signal for activate and/or deactivate any circuit. What is claimed and disclosed is “a device for activating and/or deactivating the further device to an activated and/or deactivated state” which is fully anticipated by **FIG 9** of Matsuda as explained above.

Second, applicant argues that Matsuda fails to teach or suggest the limitations recited by amended independent claim 19 including “changing the essentially constant

voltage to provide the second voltage in a first state and changing the greater of the essentially constant voltage and the variable further voltage to provide the second voltage in a second state". According to applicant, Matsuda fails to disclose changing the greater of V_{ref} and V_r to provide V_{cc2} in a second state: V_{cc2} of Matsuda is always derived from V_{ref} with feedback from V_r to maintain V_{cc2} at a fixed level, V_r of Matsuda merely drive circuits 4 and 5 so that circuits 4 and 5 can be formed by reduced-sized elements.

It is noted that Matsuda (**For example: see FIG 9**) discloses the apparatus at its normal operation performing method of changing a first voltage (**V_{cc1}**) into a second voltage (**V_{cc2}**), wherein the second voltage (**V_{cc2}**) exhibits a lower voltage level than the first voltage (**V_{cc1}**) (**For example: see lines 26-27 of col. 1**); generating an essentially constant voltage (**V_{REF}**) from the first voltage (**V_{cc1}**), or a voltage derived from it; generating a variable further voltage (**V_R**) from the first voltage (**V_{cc1}**) or a voltage derived from it, the variable further voltage (**V_R**) tracking the first voltage (**V_{cc1}**), wherein the further voltage (**V_R**) can be higher than the constant voltage (**V_{REF}**) generated from the first voltage (**V_{cc1}**) or the voltage derived from it; and changing the essentially constant voltage (**V_{REF}**) to provide the second voltage (**V_{cc2}**) in a first state (**connection made between contact #1 and #2**) and changing the greater of the essentially constant voltage (**V_{REF}**) and the variable further voltage (**V_R**) to provide the second voltage (**V_{cc2}**) in a second state (**connection made between contact #3 and #4**).

Contact Information

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emily Pham whose telephone number is (571)270-3046. The examiner can normally be reached on Mon-Thu (7:00AM - 6:00PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Monica Lewis can be reached on (571) 272 - 1838. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

May 05, 2010

/EP/
Examiner, Art Unit 2838

/Monica Lewis/

Supervisory Patent Examiner, Art Unit 2838